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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/987,898

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Katsuhiko Nishikawa

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EXAMINER

NGUYEN, HIEP T

ART UNIT

PAPER NUMBER

2187

DATE MAILED: 07/26/2004

8

Please find below and/or attached an Office communication concerning this application or proceeding.

pre

Office Action Summary

Application No.

09/987,898

Applicant(s)

NISHIKAWA, KATSUHIKO

Examiner

Hiep T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is a response to the amendment filed May 6, 2004. Claims 1-17 are pending in the application.

Response to Arguments

2. Applicant's arguments filed May 6, 2004 have been fully considered but they are not persuasive.
 - a. Applicant argued that the present invention prevents free space in the terminal device from falling below a predetermined amount and that Smith does not teaches or suggest the claimed limitation of "such that the free capacity of the data accumulation unit cannot be smaller than a predetermined value", as recited in claims 1, 6, 14, and 16 [paper no. 7, filed 5/6/04; page 6, fifth paragraph].
 - b. In response to the applicant's argument, applicant is referred back to Smith figure 3, steps 302 and 304 and the previous Office Action paragraph 3(a)(i). In these particular steps, the user storage area is determined to see whether it is nearly full. If it does, it is further determined to see whether the storage area is less than a predetermined threshold. Clearly, through the above-mentioned two steps, the user store area [i.e., the instant claimed data accumulation unit] can never or cannot be smaller than a predetermined [threshold] value. Accordingly, Smith system **does prevent** free space in the terminal device from falling below a predetermined amount, and that Smith **does teach** the claimed limitation of "such that the free capacity of the data accumulation unit cannot be smaller than a predetermined value".
 - c. Applicant further argued that Smith system does not provide a dedicated "storage service providing device" that is available on a network. However, as pointed out by the examiner in the previous office action that, in Smith, the support web site (407) has a storage space for storing information to be back up from the user terminal device (400). Clearly, no specific storage device is being claimed as the

"storage service providing device". The Smith web site (407) provides storage (408). Accordingly, such web site can be considered as a storage service providing device. Similarly the Smith external storage device (404) can also be reasonably considered as a storage service providing device. However, the external storage device (404) is connected to the User terminal device through an I/O link instead of a network link.

- d. Lastly, applicant argued, "the present invention also provides a unique data storage method. In this method (see claim 5) a determination is made as to whether data is 'deleted or updated' in the user terminal device. When the data is deleted or updated, the data is transferred from the device to and stored in a storage service providing device "before the deletion or update" occurs. Smith says nothing about moving data when it is updated or deleted." [Paper no. 7, filed 5/6/04; the end of p.6 through the beginning of p.7]. However, as pointed out in the previous Office action that Smith, at col. 6, lines 39-46, does teach that when the data is deleted or updated, the data is transferred from the user terminal device [i.e., the unit 400] to and stored in a storage service providing device [i.e., the external store device (404) before the deletion or update occurs. At that particular portion of the specification, Smith clearly state that ... rather than simply overwriting the pre-stored instructional information in any of the above mentioned steps, an option would be that the instructional information could be transferred to the external storage for later access, i.e., backup, before the on-board storage space is overwritten with user data. Clearly, in claim 5, the claimed storage service providing device is not necessarily connected to the user terminal device through a network link.
- e. Accordingly, the rejection of claims 1-7, 10, 13-14, and 16-17 under 35 USC 102(e) and the rejection of claims 8-9, 12, and 15 under 35 USC 103(a), as stated in the previous Office action, paper no. 6, mailed January 7, 2004, are

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hereby maintained and made final. The rejections are reiterated below for applicant convenience.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-7, 10, 13-14, and 16-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Smith, U.S. Patent No. 6,553,468.
- a. As per claim 1: Smith teaches a storage service method [figures 3A-3B], comprising:
 - i. monitoring a storage capacity of a data accumulation unit of a user terminal device [steps 302 and 304; col. 5, lines 55-64]; and
 - ii. transferring data of the data accumulation unit to a storage service providing device through a network such that the free capacity of the data accumulation unit cannot be smaller than a predetermined value [step 314; col. 6, lines 6-15].
 - b. As per claim 2: Smith also teaches the further claimed limitation of “wherein: said user terminal device detects whether or not data is deleted or updated; and when data is deleted or updated, the data before deletion or update is transferred to the storage service providing device [col. 6, lines 39-46].
 - c. As per claim 3: Smith further teaches “wherein: a use frequency of data in the user terminal device is determined; and data is sequentially transferred to the storage service providing device in order from lowest use frequency such that the

free capacity of the data accumulation unit cannot be smaller than the predetermined value" [steps 306 –310; col. 6, lines 47-67].

- d. As per claim 4, similarly to claim 3 Smith further teaches "wherein: policy information defining a process of data is added to the data; and when said data is transferred from the data accumulation unit to the storage service providing device, the data to be transferred is selected according to the policy information." [This is because when the operation of transferring data to the external storage device prior to deleting the data is adopted, the above mentioned policy [e.g., steps 306-310] in transferring the data would follow necessarily.
- e. As per claim 5: Smith teaches a storage service method [See again col. 6, lines 39-46; figures 3A-3B], comprising:
- i. determining whether or not data is deleted or updated in a user terminal device;
 - ii. in case data is deleted or updated, transferring the data before deletion or update from the user terminal device to a storage service providing device; and
 - iii. storing the transferred data in the storage service providing device.
- f. As per claim 6: Smith teaches storage service user terminal device [figure 4, element 400], comprising:
- i. a data accumulation unit [figure 4, element 401] accumulating data;
 - ii. a free capacity monitor unit monitoring a free capacity of said data accumulation unit [i.e., the implementation of steps 304 and 306; figure 3A]; and
 - iii. a data transfer unit transferring the data of said data accumulation unit to a storage service providing unit through a network such that the free capacity of said data accumulation unit cannot be smaller than a

predetermined value based on a monitor result of said free capacity monitor unit [i.e., the implementation of steps 304-314; col. 6, lines 6-15].

- g. As per claim 7: Smith further teaches a detection unit [i.e., the implementation of steps 311-314 of figure 3B] detecting whether or not data is deleted or updated, wherein when said detection unit detects that data is deleted or updated, said data transfer unit transfers the data before deletion or update to said storage service providing device. [See again col. 6, lines 6-15].
- h. As per claim 10: the further claimed limitation of "a data determination unit determining whether or not data to be used has been transferred to the storage service providing device, wherein when said data determination unit determines that the data has been transferred to the storage service providing device, said data transfer unit downloads the data from the storage service providing device" is implicitly taught by Smith. This is because Smith teaches that the data transferred to the storage service providing device is for the purpose of later retrieval [see again col. 6, lines 6-15].
- i. As per claim 13: similarly to claim 10, Smith implicitly teaches the further claimed limitation of "wherein said data transfer unit comprises an upload unit and a download unit respectively uploading the data in said data accumulation unit into said storage service providing device when said free capacity of said data accumulation unit is close to the predetermined value and downloading necessary data from said storage service providing device". This is because Smith teaches that the data transferred to the storage service providing device is for the purpose of later retrieval [see again col. 6, lines 6-15].
- j. As per claim 14: Smith teaches a storage service providing device[figure 4; element 407 or 404], comprising:
 - i. a reception unit [i.e.,, network interface connected to the network link 406 or external storage device interface connected to the I/O port 403] receiving data to be uploaded from a user terminal device through a

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- network to reserve a free capacity such that a free capacity of a data accumulation unit of the user terminal device cannot be smaller than a predetermined value [see also figure 3A-3B];
- ii. a data accumulation unit of a storage serve providing device storing data (408 or 405);
 - iii. a data read unit reading data when the user terminal device requests the data to be downloaded [i.e., an implementation of the retrieval data from the web site or external device; se again col. 6, lines 6-15]; and
 - iv. a transmission unit (406 or 403) downloading the data read from said data accumulation unit of the storage service providing device into the user terminal device.
- k. As per claim 16-17: the claimed computer –readable storage medium comprises no more than instructions, when execute by a computer, for carrying out the steps of claims 1-2. Clearly, the instructions for carrying out the Smith steps as mentioned in the rejection of claims 1-2 must have been stored in a computer readable medium. Accordingly, Smith also anticipates the claims 16-17.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
- a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
6. Claims 8-9, 12 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith as applied to claims 6 and 14 above, and further in view of well known features of which Official Notice is hereby taken.
- a. As per claims 8-9:

- i. Smith teaches a storage serve user terminal device, as mentioned in the rejection of claim 6.
- ii. Smith, however, does not teaches that his user data is transferred to the support web site using some source of policy such as use frequency in determining which user data in the data accumulation unit of the user terminal device should be transferred.
- iii. Using a policy such as use frequency in determining which data should be cached out from a temporary storage device such as that of Smith storage device (401) has been known and widely implemented in the pertinent art. As well known the less frequently used data would be cached out first since it is less likely the data will be used again. By caching out the less frequently use data first would further improve the system performance since the memory space in the temporary storage device such as that of Smith storage device (401) can be use for storing data that is more likely to be use by the user terminal device (400).
- iv. Accordingly, it would have been obvious o one having ordinary skill in the art at the time the invention was made to provide the Smith device controller (402) with some source of policy information such as use frequency to be associated with the user data stored in the Smith storage device (401) and further configure the Smith controller (402) to select the stored user data to be transferred to the support web site in accordance to the newly added use frequency information associated with the data, as taught by the well-known feature.
- v. The further improvement in the system performance provide sufficient suggest ion and motivation to one having ordinary skill in the art at the time the invention was made to do such further use frequency employment and controller configuration in the Smith system.

b. As per claim 12:

- i. Smith teaches a device, as mentioned.
- ii. Smith, however, does not teach a relevant data determination unit determining whether or not relevant data exists, wherein when said relevant data determination determines that there is relevant data, said data transfer unit simultaneously transfers other data relevant to the data to said storage service providing device.
- iii. It has been known in the art that when data is destaged or cached out to more permanent storage such as that of Smith external storage device (404) or support web site (407), related data would also be destaged. This is because the probability that the related data will be referenced is small similarly to the destaged data.
- iv. One having ordinary skill in the art at the time the invention was made, who is familiar with the well known data caching out or destaging scheme, as mentioned, looks at the device of Smith would lead he or she to further employ a relevant data determination unit for determining whether or not relevant data exists, and when said relevant data determination determines that there is relevant data, said data transfer unit simultaneously transfers other data relevant to the data to said storage service providing device so as to reduce the on-board storage device pollution with data that might not be used by the personal device.
- v. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further employ a relevant data determination unit for determining whether or not relevant data exists, and further configure the smith data transfer unit so that when said relevant data determination determines that there is relevant data, said data transfer unit simultaneously transfers other data relevant to the data to said storage service providing device so as to reduce the on-

board storage device pollution with data that might not be used by the personal device.

- vi. The ability to reduce the smith on-board storage device pollution with data that might not be used by the personal device provide sufficient suggestion and motivation to one having ordinary skill in the art to do such further unit employment and configuration.

c. As per claim 15:

- i. Smith teaches a device, as mentioned.
- ii. Smith, however, does not teach:
 - 1. a difference generation unit generating a difference between the data received by said reception unit and past data stored in said data accumulation unit of the user terminal device; and
 - 2. data storage unit storing the difference data generated by said difference generation unit in said data accumulation unit of the user terminal device.
- iii. It has been known in the art that when data is caching in or restored a block data using data from lower level or external memory, only the portion of the data block that has not been cached or restored is actually transferred to the upper or to the cache memory. This is because by doing so the time it takes to overwrite the data portion of the block that has been already in the cache would be eliminated. Thus, the overall transfer or restoration time would be reduced.
- iv. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further employ, in the Smith device:
 - 1. a difference generation unit generating a difference between the data received by said reception unit and past data stored in said data accumulation unit of the user terminal device; and

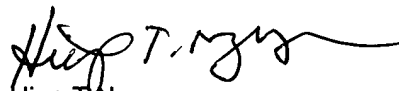
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2. data storage unit storing the difference data generated by said difference generation unit in said data accumulation unit of the user terminal device,

v. So as to reduce the overall transfer or restoration time, as mentioned.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep T Nguyen whose telephone number is (703) 305-3822. The examiner can normally be reached on Monday-Friday from 9:30 a.m. to 6:00 p.m.
9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (703) 308-1756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Hiep T Nguyen
Primary Examiner
Art Unit 2187

HTN